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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,126	01/15/2009	Sergei Evgenjevich Bankov	678-2558 PCT US	7508
66547 7590 01/24/2011 THE FARRELL LAW FIRM, P.C. 290 Broadhollow Road Suite 210E Melville, NY 11747				
EXAMINER				
KARACSONY, ROBERT				
ART UNIT		PAPER NUMBER		
2821				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

**Application No.**

10/580,126

**Applicant(s)**

BANKOV ET AL.

**Examiner**

ROBERT KARACSONY

**Art Unit**

2821

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-945)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 01/15/2009 and 03/08/2010
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### **Priority**

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### **Information Disclosure Statement**

2. The information disclosure statements (IDS) submitted on January 15, 2010 and March 8, 2010 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

### **Claim Objections**

3. Claims 1, 3, 4 and 5 are objected to because of the following informalities:
4. In line 3, claim 1, please replace "a planar waveguide" with --said planar waveguide-- since there is only one planar waveguide in the present invention and the planar waveguide has already been introduced in line 2 of the claim.
5. In lines 3-4, claim 1, for grammatical reasons, please replace "periodical array of slots" with --a periodical array of slots--.
6. In line 4, claim 1, for clarification purposes, please replace "an array period" with --an array period of said periodical array of slots--.
7. In lines 1-2, claim 3, please replace "the metal waveguides" with --the two metal waveguides-- to comply with antecedent basis rules.

8. In lines 1-2, claim 4, for grammatical reasons, please replace "in which the metal waveguides are contacting with the planar one by its wide sides" with "--wherein the two metal waveguides are in contact with wide sides of the planar waveguide--". Claim 5 is similar in scope as claim 4 and is therefore objected to for the same reasons, as discussed above.
9. Appropriate correction is required.

### **Claim Rejections - 35 USC § 103**

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milroy (US 5,483,248, hereinafter Milroy) in view of Teshirogi et al. (US 2004/0090290, hereinafter Teshirogi).

Claim 1: Milroy teaches a planar antenna comprising: a planar metal-plated, at least on one side, dielectric waveguide (10, fig. 1), to the side walls of which two metal waveguides (49a and 49b, fig. 25) are adjoining that are connected with the planar waveguide, and radiating elements (15, fig. 1) having two symmetry planes (two orthogonal planes of polarization, see col. 11, lines 35-39) are placed in nodes of a rhombic mesh (square mesh, fig. 1e, see also col. 4, lines 57-59) on a surface (13, fig. 1) of the planar waveguide.

Milroy fails to teach the two metal waveguides connected with the planar waveguide via a periodical array of slots, wherein an array period of said periodical array of slots comprises two

slots shifted or inclined with respect to each other. However, Teshirogi teaches a suitable waveguide feed structure to feed a parallel plate waveguide (fig. 10 and fig. 17) comprising an array of slots shifted with respect to each other in order to optimize the attenuation and phase of the electromagnetic waves propagating inside (paragraph [0007-0008]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the slotted, shifted waveguide of Teshirogi as the feed waveguide of Milroy in order to have optimized the attenuation and phase of the electromagnetic wave propagating inside.

Claim 2: Milroy teaches the planar waveguide has a form of a rhomb (fig. 1e, see also col. 4, lines 57-59).

Claim 3: The modified invention of Milroy teaches the two metal waveguides have rectangular cross-section (fig. 10 of Teshirogi).

Claim 4: The modified invention of Milroy teaches the two metal waveguides are in contact with wide sides of the planar waveguide (Since the term "wide" is a relative term, the Examiner interprets any side as being a "wide side." Therefore, fig. 5 of Milroy and fig. 10 of Teshirogi teach the two metal waveguides are in contact with "wide" sides of the planar waveguide).

Claim 5: The modified invention of Milroy teaches the two metal waveguides are in contact with narrow sides of the planar waveguide (fig. 5 of Milroy, see also fig. 10 of Teshirogi).

Claim 6: Milroy teaches the planar waveguide is metal-plated on two sides (fig. 1) and the radiating elements are implemented as metallizations having a square or round form (fig. 1e, see also col. 4, lines 57-59).

Claim 7: Milroy teaches the planar waveguide is metal-plated on one side (fig. 1), and the radiating elements are implemented as metallizations having a square or round form (fig. 1e, see also col. 4, lines 57-59).

### **Conclusion**

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Itoh et al. (US 4,755,821) teaches a parallel plate waveguide having a plurality of radiating elements fed by a slotted array waveguide.
- Sagisaka (US 6,020,858) teaches a parallel plate waveguide having a plurality of radiating elements fed by a slotted array waveguide on two adjacent sides.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT KARACSONY whose telephone number is (571)270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacob Y. Choi can be reached on 571-272-2367. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./  
Examiner, Art Unit 2821

/Jacob Y Choi/  
Supervisory Patent Examiner, Art Unit 2821